

# SEA TURTLES AND THE EXPLOSIVE REMOVAL OF OFFSHORE OIL AND GAS STRUCTURES

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Concern was raised over the impacts of explosives on sea turtles when 51 dead turtles were found stranded on upper Texas beaches during mid-March to mid-April of 1986, the same time that a series of 22 underwater explosions occurred in support of oil structure removals. In July 1986, 11 sightings of at least three turtles (two loggerheads, *Caretta caretta*, and one green turtle, *Chelonia mydas*) were made during the removal of a platform approximately 30 miles south of Sabine Pass, Texas. What appeared to be a dead or injured turtle drifting with the current 10 feet below the surface of the water was reported 1.5 hours after detonation of explosives. Later that year the National Marine Fisheries Service (NMFS) and Minerals Management Service (MMS) consulted under Section 7 of the Endangered Species Act of 1973. The result was that oil and gas companies wishing to use underwater explosives were required to submit a permit application to MMS. Included in the permit issued by MMS is an Incidental Take Statement prepared by NMFS describing requirements which must be met to protect sea turtles in the area. Among these requirements is the use of qualified observers to monitor for sea turtles.

The observer program described in the Incidental Take Statements began in March 1987. From that date through the end of 1988 a total of 69 platforms and 39 caissons or other single pile structures were removed in state and federal waters of Louisiana and Texas. Thirty-six turtle sightings were made at 14 structure removal locations; 12 in Louisiana and 2 in Texas. Twenty-one loggerhead, 1 green turtle, and 14 unidentified sightings were reported during 1987-1988. Of these, 27 were made during the day and 9 at night. Thirteen sightings were made from helicopters and 24 from vessels. The frequency of turtle sightings at various distances from the structure being removed were 13 within 30 yards, 15 within 30-500 yards, and 8 within 500-2,600 yards. If sightings made during 1986-1988 are included, turtles were present at removal sights during all months except January and May. In excess of 30 additional turtle sightings were made at offshore platforms during 1987-1988, but these have not been included here because the structures were not being removed.

One platform removal was of special interest. At a platform located approximately 5 miles off of Corpus Christi, Texas a loggerhead turtle was observed 5 times at the surface before being captured 27 hours later by a diver while it was sleeping on the sea floor under the platform. The turtle was brought aboard a vessel and released at another platform about 3.5 miles away. Observers subsequently returned to the area to relocate the animal. Although 6 hours of surface monitoring resulted in no sightings, divers surveying the bottom located a loggerhead turtle sleeping underneath the platform. Six days later a loggerhead was observed at the surface. One and one-half hours after this sighting the turtle was seen on the bottom during a diver survey. Two days later a loggerhead was observed 23 times at the surface (between 1530 and 0700 hours) at another platform approximately 0.5 miles away. Despite 3 diver surveys during this period, no underwater sightings were made. It is thought that all sightings might be of the same individual because observers reported the same approximate length of 2-2.5 feet.

One 152-pound loggerhead turtle was captured by divers at another removal site about 100 miles off the Texas-Louisiana border. This turtle was flown by helicopter to Galveston and held at the NMFS Galveston Laboratory for use in a turtle tracking study.

## SUMMARY

The data show that sea turtles associate with offshore platforms. There is also evidence of resident turtles at platforms. However, the degree of association and the extent of residency are not yet known. Surface observations are not always effective in detecting the presence of turtles. During 1987-1988, no turtles

were known to be killed or injured by explosions, but this is difficult to assess because the carcass of an impacted turtle probably sinks and is not visible from the surface for several days until it bloats from decomposition and subsequently refloats. The observer program described here has saved one turtle off Corpus Christi from certain death or serious injury and probably another turtle 100 miles off the Texas-Louisiana border. In addition, the program is a valuable source of information pertaining to turtle distribution, seasonality, and behavior at offshore artificial reef habitats.